

Space Weather Forecast

Issued on Thursday, 25 November 2021 at 00:45 Local

This forecast provides a four day assessment of space weather events. The probabilities stated below are for reaching or exceeding the given levels. For more information about space weather impacts please see the Met Office Space Weather Scales <https://www.metoffice.gov.uk/weather/learn-about/space-weather/uk-scales>

Space Weather Forecast Headline: Chance of minor geomagnetic storm late 27 or early 28 November.

Analysis of Space Weather Activity over past 24 hours

Solar Activity: Solar activity was very low, with no significant flares detected. There is currently one numbered, small and magnetically weak sunspot region visible. An Earth-directed coronal mass ejection (CME) may reach Earth late on 27 Nov or early on 28 Nov.

Solar Wind / Geomagnetic Activity: Solar wind speeds were slightly elevated to elevated with a general decline noted. The magnetic field was weak, with no significant negative deflections in the important north-south direction. Resultant geomagnetic activity was Quiet (Kp 0-2).

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) remained at background with no solar radiation storms detected.

Four-Day Space Weather Forecast Summary

Solar Activity: Solar activity is expected to be low or very low, with a chance of Common-class flares.

Solar Wind / Geomagnetic Activity: An Earth-directed CME which left the sun is likely to reach Earth either late on 27 Nov or early on 28 Nov. Solar winds are currently slightly elevated and are likely to decline to Slow during the next 24 hours. Quiet geomagnetic activity may become Unsettled to Active late on 27 or early 28 Nov. with a chance of a minor geomagnetic storm.

Energetic Particles / Solar Radiation: The count rate of energetic particles (high energy protons) is expected to remain at background with no solar radiation storms forecast.

Geomagnetic Storms:

Geo-Magnetic Storm	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC)	Day 2 (00-24 UTC)	Day 3 (00-24 UTC)	Day 4 (00-24 UTC)
Probability (Exceedance)			(%)	(%)	(%)	(%)
Minor or Moderate	G1 to G2	No	1	1	10	20
Strong	G3	No	1	1	1	5
Severe	G4	No	1	1	1	1
Extreme	G5	No	1	1	1	1

Radio Blackouts - X Ray Flares:

X Ray Flares	Level	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC)	Day 2 (00-24 UTC)	Day 3 (00-24 UTC)	Day 4 (00-24 UTC)
Probability			(%)	(%)	(%)	(%)
Active	R1-R2 M Class	No	1	1	1	1
Very Active	R3 to R5 X	No	1	1	1	1

Solar Radiation Storms - (High Energy Protons):

Radiation Storms	Level (cm ⁻² sr ⁻¹ s ⁻¹)	Past 24 Hours (Yes/No)	Day 1 (00-24 UTC)	Day 2 (00-24 UTC)	Day 3 (00-24 UTC)	Day 4 (00-24 UTC)
Probability (Exceedance)			(%)	(%)	(%)	(%)
Active	≥ S1	No	1	1	1	1
Very Active	≥ S3 *	No	1	1	1	1

* S3 ≥ 10 MeV ≥ 1000 pfu and / or ≥ 50 MeV ≥ 10 pfu. (pfu = cm⁻²sr⁻¹s⁻¹)